

FW

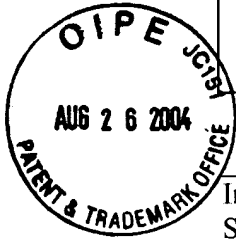
I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as First Class Mail, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date shown below.

Dated: August 24, 2004

Signature: \_\_\_\_\_

*(Signature)*  
(Kevin M. Cronin)

Docket No.: 022956-0259  
(PATENT)



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:  
Stephanie M. Kladakis et al.

Application No.: 10/828,841

Confirmation No.: 5305

Filed: April 20, 2004

Art Unit: N/A

For: MENISCAL REPAIR SCAFFOLD

Examiner: Not Yet Assigned

**INFORMATION DISCLOSURE STATEMENT (IDS)**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom. This Information Disclosure Statement is filed before the mailing date of a first Office Action on the merits as far as is known to the undersigned (37 CFR 1.97(b)(3)). A copy of all non-U.S. Patent references on the PTO/SB/08 is attached.

In accordance with 37 CFR 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 CFR 1.56(a) exists. In accordance with 37 CFR 1.97(h), the filing of this Information Disclosure statement shall not be construed to be an admission that any patent, publication or other information referred to therein is "prior art" for this invention unless specifically designated as such.

It is submitted that the Information Disclosure Statement is in compliance with 37 CFR 1.98 and the Examiner is respectfully requested to consider the listed references.

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 141449, under Order No. 022956-0259.

Dated: August 24, 2004

Respectfully submitted,

By 

Kevin M. Cronin

Registration No.: 47,203

NUTTER MCCLENNEN & FISH LLP

World Trade Center West

155 Seaport Boulevard

Boston, Massachusetts 02210-2604

(617) 439-2000

(617) 310-9000 (Fax)

Attorney for Applicant

1353924.1



PTO/SB/08A (10-01)

Approved for use through 10/31/2002.OMB 0651-0031

U. S. Patent and Trademark Office: U. S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO				<b>Complete if Known</b>	
				Application Number	10/929,841-5305 10/828,841
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)				Filing Date	April 20, 2004
				First Named Inventor	Kladakis et al.
				Group Art Unit	Not yet assigned
				Examiner	Not yet assigned
Sheet	1	of	4	Attorney Docket No.	22956-259

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
		6,605,294	08/12/2003	Sawhney	
		6,599,323	07/29/2003	Melican et al.	
		6,541,024	04/01/2003	Kadiyala et al.	
		6,511,958	01/28/2003	Atkinson et al.	
		6,379,367	04/30/2002	Vibe-Hansen et al.	
		6,365,149	04/02/2002	Vyakarnam et al.	
		6,331,312	12/18/2001	Lee et al.	
		6,319,712	11/20/2001	Meenen et al.	
		6,306,424	10/23/2001	Vyakarnam et al.	
		6,291,240	09/18/2001	Mansbridge et al.	
		6,287,340	09/11/2001	Altman et al.	
		6,283,980	09/04/2001	Vibe-Hansen et al.	
		6,277,151	08/21/2001	Lee et al.	
		6,251,673	06/26/2001	Winkler	
		6,214,045	04/10/2001	Corbitt, Jr. et al.	
		6,200,606	03/13/2001	Peterson et al.	
		6,197,061	03/06/2001	Masuda et al.	
		6,187,053	02/13/2001	Minuth	
		6,183,737	02/06/2001	Zaleske et al.	
		6,180,007	01/30/2001	Gentile et al.	
		6,179,872	01/30/2001	Bell et al.	
		6,153,292	11/28/2000	Bell et al.	
		6,143,293	11/07/2000	Weiss et al.	
		6,140,039	10/31/2000	Naughton et al.	
		6,139,578	10/31/2000	Lee et al.	
		6,132,463	10/17/2000	Lee et al.	
		6,123,727	09/26/2000	Vacanti et al.	
		6,121,042	09/19/2000	Peterson et al.	
		6,120,514	09/19/2000	Vibe-Hansen et al.	
		6,110,209	08/29/2000	Stone	
		6,103,255	08/15/2000	Levene et al.	
		6,096,532	08/01/2000	Armstrong et al.	
		6,080,579	06/27/2000	Hanley, Jr. et al.	
		6,027,742	02/22/2000	Lee et al.	
		6,005,161	12/21/1999	Brekke et al.	
		6,001,394	12/14/1999	Daculsi et al.	
		6,001,352	12/14/1999	Boyan et al.	
		5,990,378	11/23/1999	Ellis	
		5,990,194	11/23/1999	Dunn et al.	
		5,989,269	11/23/1999	Vibe-Hansen et al.	
		5,980,889	11/09/1999	Butler et al.	
		5,968,096	10/19/1999	Whitson et al.	
		5,964,805	10/12/1999	Stone	
		5,914,121	06/22/1999	Robey et al.	
		5,904,717	05/18/1999	Brekke et al.	
		5,904,716	05/18/1999	Gendler	

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(use as many sheets as necessary)</i>				<b>Complete if Known</b>	
				Application Number	10/929,841 - 5305 10/18/28,441
				Filing Date	April 20, 2004
				First Named Inventor	Kladakis et al.
				Group Art Unit	Not yet assigned
				Examiner	Not yet assigned
Sheet	2	of	4	Attorney Docket No.	22956-259

	5,902,741	05/11/1999	Purchio et al.	
	5,891,558	04/06/1999	Bell et al.	
	5,842,477	12/01/1998	Naughton et al.	
	5,837,235	11/17/1998	Mueller et al.	
	5,830,493	11/03/1998	Yokota et al.	
	5,786,217	07/28/1998	Tubo et al.	
	5,769,899	06/23/1998	Schwartz et al.	
	5,766,631	06/16/1998	Arnold	
	5,759,190	06/02/1998	Vibe-Hansen et al.	
	5,755,791	05/26/1998	Whitson et al.	
	5,736,372	04/07/1998	Vacanti et al.	
	5,723,331	03/03/1998	Tubo et al.	
	5,720,969	02/24/1998	Gentile et al.	
	5,709,854	01/20/1998	Griffith-Cima et al.	
	5,681,353	10/28/1997	Li et al.	
	5,677,355	10/14/1997	Shalaby et al.	
	5,632,745	05/27/1997	Schwartz	
	5,577,517	11/26/1996	Bonutti	
	5,514,181	05/07/1996	Light et al.	
	5,480,827	01/02/1996	Guillemin et al.	
	5,455,041	10/03/1995	Genco et al.	
	5,445,833	08/29/1995	Badylak et al.	
	5,443,950	08/22/1995	Naughton et al.	
	5,425,766	06/20/1995	Bowald	
	5,326,357	07/05/1994	Kandel	
	5,206,023	04/27/1993	Hunziker	
	5,147,400	09/15/1992	Kaplan et al.	
	5,108,989	04/28/1992	Amento et al.	
	5,061,281	10/29/1991	Mares et al.	
	5,053,050	10/01/1991	Itay	
	5,041,138	08/20/1991	Vacanti et al.	
	4,902,508	02/20/1990	Badylak et al.	
	4,801,299	01/31/1989	Brendel et al.	
	4,609,551	09/02/1986	Caplan et al.	
	4,597,766	07/01/1998	Hilal	
	4,553,272	11/19/1985	Mears	
	4,520,821	06/04/1985	Schmidt et al.	
	3,857,932	12/31/1974	Shepherd et al.	
	3,812,017	05/21/1974	Santangelo et al.	
	US2003/0077311	04/24/2003	Vyakarnam et al.	
	US2003/0026787	02/06/2003	Fearnot et al.	
	US2002/0009806	01/24/2002	Hicks, Jr.	
	US2002/0009805	01/24/2002	Nevo et al.	
	US2002/0099448	07/25/2002	Hiles et al.	
	US2002/0099401	07/25/2002	Bonutti	
	US2002/0091406	07/11/2002	Bonutti	
	US2002/0091403	07/11/2002	Bonutti	
	US2002/0082631	06/27/2002	Bonutti	
	US2002/0062151	05/23/2002	Altman	
	US2002/0029055	03/07/2002	Bonutti	

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(use as many sheets as necessary)</i>				<b>Complete if Known</b>	
				Application Number	10/929,841-5305
				Filing Date	April 20, 2004
				First Named Inventor	Kladakis et al.
				Group Art Unit	Not yet assigned
				Examiner	Not yet assigned
Sheet	3	of	4	Attorney Docket No.	22956-259

		US2002/0028192	03/07/2002	Dimitrijevic et al	
		US2002/0133229	09/19/2002	Laurencin et al.	
		US2002/0127265	09/12/2002	Bowman et al.	
		US2002/0107570	08/08/2002	Sybert et al.	
		US2001/0053839	12/20/2001	Noishiki et al.	
		US2001/0053353	12/20/2001	Griffith et al.	
		US2001/0039453	11/08/2001	Gresser et al.	
		US2001/0023373	09/20/2001	Plouhar et al.	
		US2001/0016353	08/23/2001	Janas et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>2</sup>
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				
		EP 1 167 517	01/02/2002	de Bruijn		
		EP 1 064 958	01/03/2001	Vyakarnam et al.		
		EP 0 955 024	11/10/1999	Adamkiewicz		
		EP 0 562 864	09/29/1993	Rosenthal et al.		
		EP 0 274 898	07/20/1988	Hinsch et al.		
		WO 99/47097	09/23/1999	Haft		
		WO 99/16381	04/08/1999	Tripp et al.		
		WO 98/48860	11/05/1998	Jahoda et al.		
		WO 97/46665	12/11/1997	Rieser et al.		
		WO 97/30662	08/28/1997	Naughton et al.		
		WO 95/33821	12/14/1995	Purchio et al.		
		WO 86/00533	01/30/1986	Leenslag et al.		
		DE 198 12 195	09/30/1999	Haft		

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See attached Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the application number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Thomas F. Deuel and Nan Zhang, "Growth Factors" in Principles of Tissue Engineering, Second Edition, Academic Press, 2000, pp. 129-141.	*
		Sally R. Frenkel, Ph.D. and Paul E. Di Cesare, M.D., "Degradation and Repair of Articular Cartilage" in Frontiers in Bioscience, 4 <sup>th</sup> ed., pp. 671-685, October 15, 1999, pgs 1-32.	*
		Keith J. Gooch et al., "Mechanical Forces and Growth Factors Utilized in Tissue Engineering" in Frontier in Tissue Engineering, Pergamon, 1998, Chapter II.3, pp. 61-82.	*
		John A. Koski, M.D. et al., "Meniscal Injury and Repair", Orthopedic Clinics of North American, volume 31, number 3, July 2000, pp. 419-435.	*
		John A. Koski, M.D. et al., "Tissue-Engineered Ligament - Cells, Matrix, and Growth Factors"	*

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(use as many sheets as necessary)</i>				<b>Complete if Known</b>	
				Application Number	10/629,841-5306
				Filing Date	April 20, 2004
				First Named Inventor	Kladakis et al.
				Group Art Unit	Not yet assigned
				Examiner Name	Not yet assigned
Sheet	4	of	4	Attorney Docket No.	22956-259

		in Tissue Engineering in Orthopedic Surgery, volume 31, number 3, July 2000, pp. 437-452.	
		Clemente Ibarra, M.D. et al. "Tissue-Engineered Meniscus - Cells and Matrix", in Tissue Engineering in Orthopedic Surgery, volume 31, number 3, July 2000, pp. 411-418.	*
		Stone, K. et al. "Meniscal Regeneration With Copolymeric Collagen Scaffolds" American Journal of Sports Medicine, 20(2):104-111 (1992).	
		Murray, M., et al. "The Migration of Cells from the Ruptured Human Anterior Cruciate Ligament into Collagen-Glycosaminoglycan Regeneration Templated in Vitro" Biomaterials 22:2393-2402 (2001).	
		*(Abstract Only) Caterson E.J., et al. "Three-Dimensional Cartilage Formation by Bone Marrow-Derived Cells Seeded in Polylactide/Alginate Amalgam" J Biomed Mater Res, 57(3):394-403 (2001).	
		*(Abstract Only) Grigolo, B., et al. "Transplantation of Chondrocytes Seeded on a Hyaluronan Derivative (hyaff-11) into Cartilage Defects in Rabbits" Biomaterials 22(17):2417-2424 (2001).	
		*(Abstract Only) van Susante JLC, et al. "Linkage of Chondroitin-sulfate to Type I Collagen Scaffolds Stimulates the Bioactivity of Seeded Chondrocytes in Vitro", Biomaterials, 22(17):2359-2369 (2001).	
		*(Abstract Only) Hutmacher DW., "Scaffold Design and Fabrication Technologies for Engineering Tissues-State of the Art and future Prospectives", J Biomater Sci Polym Ed, 12(1):107-124 (2001).	
		*(Abstract Only) Hutmacher DW., "Scaffolds in Tissue Engineering Bone and Cartilage", Biomaterials, 21(24):2529-2543 (2000).	
		*(Abstract Only) Schreiber RE., et al. "A Method for Tissue Engineering of cartilage by Cell Seeding on Bioresorbable Scaffolds" Ann NY Acad Sci, 875:394-404 (1999).	
		*(Abstract Only) Radice, M. "Hyaluronan-Based Biopolymers as delivery vehicles for Bone-Marrow-Derived Mesenchymal Progenitors", J Biomed Mater Res, 50(2):101-9 (2000).	
		Albrecht, F., et al. Closure of Osteochondral Lesions Using Chondral Fragments and Fibrin Adhesive, Arch Orthop. Trauma Surg. (1983) 101:213-217.	
		Sampath, T.K., et al. In vitro transformation of mesenchymal cells derived from embryonic muscle into cartilage in response to extracellular matrix components of bone, Proc. Natl. Acad. Sci. USA Vol. 81, pp. 3419-3423, June 1984.	

Examiner Signature		Date Considered	
--------------------	--	-----------------	--

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached.